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SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019

February 19, 1999

Dan Harkay
U.S. Environmental Protection Agency
Removal Action Branch
2890 Woodbridge Avenue
Edison, NJ 08837

EPA CONTRACT NO: 68-W5-0019
TDD NO: 02-98-08-0053
DOCUMENT CONTROL NO: START-02-F-03240
SUBJECT: SOIL AND SEDIMENT SAMPLING AND ANALYSIS SUMMARY REPORT, ADDENDUM NO. 1 - CORNELL DUBILIER ELECTRONICS - BOUND BROOK

Dear Mr. Harkay:

Enclosed please find Addendum No. 1 to the Soil And Sediment Sampling and Analysis Summary Report for the Cornell Dubilier Electronics - Bound Brook project. If you have any questions or comments, please call me at (732) 225-6116.

Very truly yours,

ROY F. WESTON, INC.

M. Mahnkopf

Michael Mahnkopf
Project Manager

Enclosure

cc: TDD File

WESTON
MANAGERS DESIGNERS CONSULTANTS

SOIL AND SEDIMENT SAMPLING AND ANALYSIS SUMMARY REPORT

ADDENDUM NO. 1

CORNELL DUBILIER ELECTRONICS - BOUND BROOK
SOUTH PLAINFIELD, MIDDLESEX COUNTY, NEW JERSEY

Prepared by

Superfund Technical Assessment and Response Team
Roy F. Weston, Inc.
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Edison, New Jersey 08837

Prepared for

U.S. Environmental Protection Agency
Region II - Removal Action Branch
Edison, New Jersey 08837

DCN #: START-02-F-03240
TDD #: 02-98-08-0053
EPA Contract No.: 68-W5-0019

Approved by:

START

M. Mahnkopf

Date: 2/19/99

Michael Mahnkopf
Project Manager

START

Dennis Hoerth for TO'N

Date: 2/19/99

Thomas O'Neill
Group Leader

EPA

Dan Harkay

Date: 3/3/99

Dan Harkay
On-Scene Coordinator

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1.0 BACKGROUND

The Cornell-Dubilier Site is located at 333 Hamilton Boulevard in South Plainfield, Middlesex County, New Jersey (Appendix 1, Figure 1). The site is approximately 25 acres in size. Facing Hamilton Boulevard are several buildings currently occupied by approximately 15 businesses. The rear of the property consists of an open field and adjoining wetlands. The facility is currently known as Hamilton Industrial Park.

The site is bordered by Hamilton Boulevard to the northwest, Spicer Avenue to the southwest, a wetlands area to the southeast, the Bound Brook and Conrail railroad tracks to the northeast. The Bound Brook traverses the southeast section of the site.

Cornell-Dubilier operated at the site from 1936 to 1962, manufacturing electronic components, including capacitors. It is alleged that during its operation, Cornell-Dubilier disposed of polychlorinated biphenyls (PCB) contaminated materials and other hazardous substances at the site.

Previous investigations have identified PCBs at the Cornell-Dubilier site and in the Bound Brook downstream of the site. Water, sediment and fish samples were collected from the Bound Brook at one (1) location adjacent to the site, three (3) locations between the site and New Market Pond, and two (2) locations in New Market Pond. Samples were also collected from one (1) location upstream of the site.

Sampling events were conducted on neighboring residential and commercial areas in June and October, 1997 and April and May, 1998. The purpose was to identify off-site migration of contaminants from the Cornell-Dubilier site on these surrounding areas.

Sampling events were conducted along the Bound Brook floodplain in August, September, October, November and December, 1997 to identify PCB contamination upstream, midstream, and/or downstream of the Cornell-Dubilier site.

2.0 OBJECTIVES

The objective of this sampling program was to confirm elevated total PCB concentrations exhibited at specific locations along the Bound Brook floodplain. Initial PCB data was generated during the previous investigations conducted during the summer/fall, 1997, as referenced above in Section 1.0.

3.0 SAMPLING DESIGN AND APPROACH

See Section 3.0 of the "Soil And Sediment Sampling And Analysis Summary Report", DCN # START-02-F-01559, dated September 7, 1998.

4.0 SAMPLING & ANALYSIS - NOVEMBER 21, 1998

Soil/sediment sampling activities were performed on November 21, 1998 by the following personnel:

1. Dan Harkay - USEPA, Region II
2. Michael Mahnkopf - START, Region II

All soil/sediment samples were collected utilizing dedicated plastic scoops and/or spatulas and stainless steel hand augers. The stainless steel hand augers were decontaminated between boreholes in accordance with the procedures outlined in the "Sampling Equipment Decontamination EPA/ERT SOP #2006" document. All samples were analyzed by Ecology & Environment, Inc., 4493 Walden Avenue, Lancaster, NY 14086, (716) 685-8080. For additional information, see project logbook # START-02-209.

On November 21, 1998, the following sample locations were re-sampled: CCSD1(Transect CC), DDSS1(Transect DD), HHSD1(Transect HH), PPPND2 (Transect PPP) and UUUSD1 (Transect UUU). One (1) surface soil sample and four (4) subsurface soil samples were collected and analyzed for total PCBs.

QA/QC samples included the collection of one (1) field duplicate sample (UUUSD3-a - dupl. of UUUSD1-a) and one (1) matrix spike/matrix spike duplicate sample (UUUSD1-a MS/MSD). These QA/QC samples were analyzed for total PCBs.

Analytical results are summarized in Table 1 and have been added to Figures 5, 6 and 8 of the "Soil And Sediment Sampling And Analysis Summary Report", DCN # START-02-F-01559, dated September 7, 1998. Qualifiers associated with the analytical results are discussed in the data validation package. The laboratory Form I's and data validation package are included as Appendix 2.

5.0 SITE SPECIFIC QUALITY ASSURANCE/QUALITY CONTROL PLAN

The objective of this QA/QC plan is to provide analytical results which are legally defensible in a court of law. The QA/QC plan incorporated procedures for field sampling, chain of custody, laboratory analyses, and reporting to assure generation of sound analytical results. Sampling procedures were conducted in accordance with USEPA protocols.

5.1 Sampling Equipment and Methods

Samples were collected at the locations and depths as described in this report. Procedural changes dictated by field conditions were fully documented in the field notes.

Equipment utilized for this project were dedicated plastic scoops and spatulas and stainless steel hand augers. All soil samples were transferred immediately after collection into sample bottles selected by parameter as listed below. Sample bottles used for this project were prepared in accordance with USEPA criteria for polychlorinated biphenyls (PCBs).

The type of sample container required for the Cornell Dubilier Electronics/Bound Brook soil investigation was as follows:

a. Polychlorinated Biphenyls - 8 oz. glass bottle with teflon closure.

All soil samples were packed on ice immediately following collection.

All samples were labeled with the following information:

a. sample number;
b. date and time of collection;
c. site name;
d. sample collector's initials;
e. analyses required.

Accurate field notes were maintained which included the information listed above. Additional information included, but was not limited to:

a. sample location sketch;
b. sample method;
c. general comments, including any modification from the sample plan.

5.2 Chain of Custody

Chain of custody was maintained for all samples. Chain of custody originated with the collection of the samples and was maintained until the samples were relinquished to the laboratory. The chain of custody form detailed the following information:

a. sample identification number;
b. sample collection date and time;
c. sample matrix;
d. expected contaminant concentration (low, medium, high);
e. sample type (grab or composite);
f. sample preservation;
g. analytical parameters;
h. name(s) and signatures(s) of sampler(s);
i. signatures(s) of individual(s) with control over samples.

5.3 Quality Assurance/Quality Control Samples

The matrix for all samples included in this investigation were soil. QA/QC samples included the collection of one (1) field duplicate and one (1) matrix spike/matrix spike duplicate sample for each matrix (soil) per sampling date at a ratio of one (1) per twenty (20) samples. Extra volume was submitted to allow the laboratory to perform matrix spike sample analysis. This analysis provides information about the effect of sample matrix digestion and measurement methodology. Field duplicate samples provide an indication of sample homogeneity and were not identified to the laboratory.

In addition, one (1) rinsate blank per sampling date was also be submitted for PCB analysis. The rinsate blank is an indicator of the effectiveness of the equipment decontamination procedures.

5.4 Sample QA/QC Data

CLP format deliverable QA/QC packages were provided by Ecology & Environment, Inc. for all samples submitted for analysis.

6.0 DATA VALIDATION

Data was evaluated according to criteria contained in the Removal Program Data Validation Procedures that accompany OSWER Directive number 9360.4-1 and in accordance with Region II guidelines using the following data validation SOP: SOP HW-13. Laboratory analytical results were assessed by the data reviewer for compliance with required precision, accuracy, completeness, representativeness, and sensitivity.

Data validation was performed by START, Region II in accordance with Level QA-2 criteria. Data validation results indicate that the analytical results are acceptable with comments. For specific comments, see the Data Validation Results included as Appendix 2.

7.0 DISCUSSION

As summarized in the "Soil And Sediment Sampling And Analysis Summary Report", DCN # START-02-F-01559, dated September 7, 1998, total PCB concentrations were exhibited by soil and sediment samples collected from Reaches 1 through 9 of the Bound Brook floodplain. Mean total PCB concentrations were previously calculated for the areas described below.

As summarized in Table 1 of this report, the re-sampled locations also exhibited total PCB concentrations. Based upon these additional analytical results, the mean total PCB concentrations have been revised and are stated below. For statistical purposes, the method detection limit (MDL) was utilized for samples which did not exhibit total PCB concentrations.

1. Surface (0-6" depth interval) soil samples collected from the north and south banks of the Bound Brook. The revised mean total PCB concentration is 6.88 parts per million (ppm). This concentration represents a decrease when compared to the original mean concentration of 7.59 ppm.

2. Subsurface (depth interval varied) soil samples collected from the north and south banks of the Bound Brook. The revised mean total PCB concentration is 12.28 ppm. This concentration represents an increase when compared to the original mean concentration of 11.97 ppm.

3. Surface (0-6" depth interval) sediment samples collected from the stream bed of the Bound Brook. Mean total PCB concentration remained unchanged at 2.93 ppm.

4. Subsurface (depth interval varied) sediment samples collected from the stream bed of the Bound Brook. Mean total PCB concentration remained unchanged at 2.34 ppm.

TABLE 1

CORNELL-DUBILIER ELECTRONICS
SOUTH PLAINFIELD, NJ
BOUND BROOK SOIL SAMPLING & ANALYSIS

NOVEMBER 21, 1998

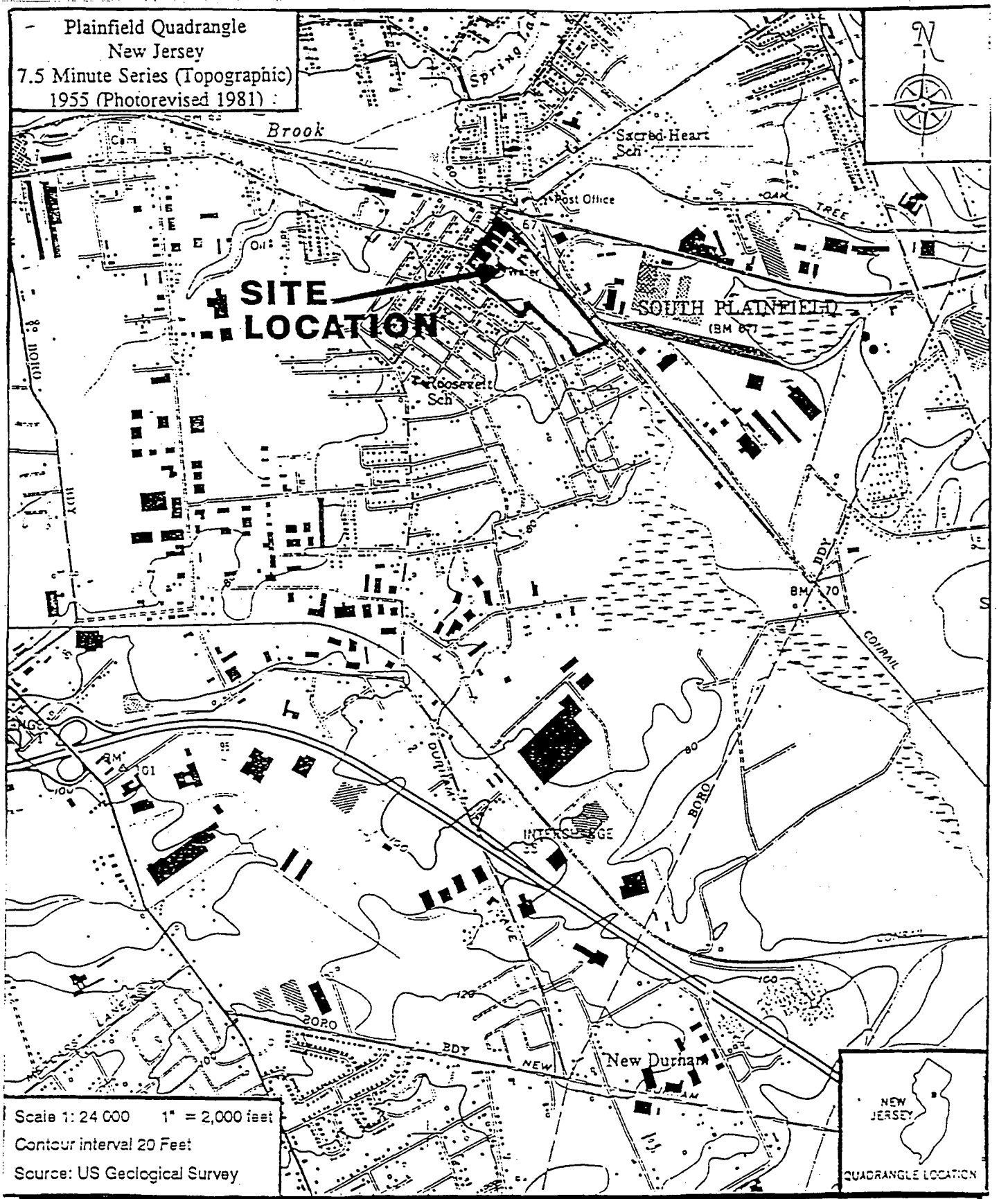
SAMPLE ID	MATRIX	DEPTH	DATE/ TIME	ANALYSIS/ RESULT (ppm)	LOCATION
CCSD1-a	Soil	18-24"	11/21/98 1000 hrs.	Total PCB/ 580 J	Transect CC
DDSS1-a	Soil	0-6"	11/21/98 1005 hrs.	Total PCB/ 250	Transect DD
HHSD1-a	Soil	12-18"	11/21/98 1025 hrs.	Total PCB/ 510	Transect HH
UUUSD1-a	Soil	18-24"	11/21/98 1045 hrs.	Total PCB/ 2.1	Transect UUU
UUUSD1-a MS/MSD	Soil	18-24"	11/21/98 1045 hrs.	Total PCB/ N/A	Matrix spike/ Matrix spike dupl.
UUUSD3-a	Soil	18-24"	11/21/98 1045 hrs.	Total PCB/ 1.2	Duplicate of UUUSD1-a
PPPND2-a	Soil	18-24"	11/21/98 1120 hrs	Total PCB/ 250	Transect PPP
RB-1	Aqueous	N/A	11/21/98 1100 hrs.	Total PCB/ ND	Rinsate Blank

Qualifiers:

J = estimated value
ND = not detected

APPENDIX 1

SITE MAPS/FIGURES



WESTON MANAGERS DESIGNERS/CONSULTANTS **Roy F. Weston, Inc.** **FEDERAL PROGRAMS DIVISION**	EPA TM D. HARKAY	CORNELL-DUBILIER ELECTRONICS S. PLAINFIELD, NJ
IN ASSOCIATION WITH RESOURCE APPLICATION, Inc. **C.C. JOHNSON & MALHOTRA, P.C., R.E. SARRIERA ASSOCIATES,** **PRC ENVIRONMENTAL MANAGEMENT, AND GRB ENVIRONMENTAL SERVICES, INC.**	START PM M. MAHNKOPF	FIGURE 1 SITE LOCATION MAP

APPENDIX 2

ANALYTICAL RESULTS (FORM I's)
&
DATA VALIDATION PACKAGE

NOVEMBER 21, 1998

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SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019

START-02-F-03327

TRANSMITTAL MEMO

To: Eric Wilson, OSC
Response and Prevention Branch, U.S. EPA Region II

From: David Rosenberg, Data Reviewer
START Region II

Subject: Cornell Dubilier Site, South Plainfield, New Jersey
Data Validation Assessment

Date: January 18, 1999

The purpose of this memo is to transmit the following information:

- Data validation results for the following parameters:

  TCL - Total PCBs 7 samples

- Matrices and Number of Samples

  Soil/Sediment 6 samples
  Water 1 sample

- Sampling date: November 21, 1998

The final data assessment narrative and original analytical data package are attached.

cc: START PM Michael Mahnkopf
START FILE TDD #: 02-98-08-0053
TDD #: 02-98-12-0010
PCS #: 4344

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: January 26, 1999

TO: Eric Wilson, OSC
USEPA Region II

FROM: David Rosenberg
START Data Review Team

SUBJECT: QA/QC Compliance Review Summary

As requested quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated as applicable:

Data Completeness	Blanks
Spectra Matching Quality	DFTPP and BFB Tuning
Surrogate Spikes	Chromatography
Matrix Spikes/Duplicates	Holding Times
Calibration	Compound ID (HSL, TIC)

Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others.

Summary of Results

	I VOA	II BNA	III PEST/PCB	IV HERB
Acceptable as Submitted				
Acceptable with Comments			X	
Unacceptable, Action Pending				
Unacceptable				

Data Reviewed by: D Rosenberg Date: 1-26-99

Approved By: John Lowe Date: 1/26/99

Area Code/Phone No.: (732) 225-6116

NARRATIVE

CASE No. 4338

SITE NAME: Cornell-Dubilier Site

South Plainfield, New Jersey

Laboratory Name: Ecology & Environment

INTRODUCTION:

The laboratory's portion of this Case consisted of 7 samples collected on November 21, 1998.

The laboratory reported No problem(s) with the receipt of these samples.

The laboratory reported a problem with the analyses of samples for PCBs. Many of the samples contained relatively large amounts of Aroclor 1254 which shares common PCB peaks with Aroclor 1260. The lab found it very difficult to quantitate the amount of Aroclor 1260 since the samples had to be diluted in order to keep the Aroclor 1254 within the calibration range.

The evaluator has commented on the criteria specified under each fraction heading. All criteria have been assessed, but no discussion is given where the evaluator has determined that criteria were adequately performed or require no comment. Details relevant to these comments are given on the forms followed.

Evaluation by Fraction:

III. Pesticides/PCB -

_Y_ Holding Times	_Y_ Calibration Linearity
_Y_ Instrument Performance	_Y_ Blank
_Y_ Surrogate Recovery	_Y_ Retention Time Window
_Y_ MS/MSD	_Y_ Analytical Sequence
_Y_ Compound ID	_Y_ RT Check for TCX and DCB
_Y_ Chromatography	

Comments:

1. Refer to Data Assessment Narrative.

CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

CASE # 4338 SDG # _____
LAB: Ecology & Environment SITE: Cornell-Dubilier

The current Functional Guidelines for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detects), "R" (unusable), or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Analytical data qualified as "JN" or "R" may not be used to demonstrate compliance with Toxicity Characteristic or Land Ban Regulations.

Reviewer's Signature: D Rowley Date: 1/26/1999

Verified By: _____ Date: __/__/19__

CLP DATA ASSESSMENT

On 21 November 1998, START personnel collected 6 soil samples, including one duplicate and extra volume for MS/MSD analysis, plus one rinse blank. The samples were submitted to Ecology & Environment Laboratory for PCB analysis.

Client identification (ID) and laboratory ID numbers:

Client ID No.	Laboratory ID No.	Matrix
CCSD1	19591	Soil
DDSS1	19592	Soil
HHSD1	19593	Soil
UUUSD1	19594	Soil
UUUSD3	19595	Soil- duplicate of UUUSD1
PPPND2	19596	Soil
RB-1	19597	Water- rinse blank

CLP DATA ASSESSMENT

1. HOLDING TIMES:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time:

TCL Data

Pest/PCBs - The following data were qualified as estimated "J" or rejected "R" due to exceeding holding time criteria:

Sample ID	Matrix	Date Sampled	Date Extracted	Qualifier	# Compounds

No problems were found.

Note: Continuous extraction of water samples must be started within seven (7) days of the date of collection. Soil/Sediment/Solid samples must be extracted within seven (7) days of collection. Extracts must be analyzed within forty (40) days of extraction.

2. BLANK CONTAMINATION:

Quality Assurance (QA) blanks [i.e., method, trip, field or rinse blanks] are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the samples shown were qualified with "U" for these reasons:

A) Method Blank Contamination

Pest/PCBs - The following compounds were qualified as non-detected "U" in the associated samples due to method blank contamination:

Compound	Associated Samples
Aroclor-1016	No problems were found.
Aroclor-1221	No problems were found.
Aroclor-1232	No problems were found.
Aroclor-1242	No problems were found.
Aroclor-1248	No problems were found.
Aroclor-1254	No problems were found.
Aroclor-1260	No problems were found.

B) Field or Rinse Blank Contamination ("water blanks" or "distilled water blanks" are validated like any other sample)

Pest/PCBs - The following compounds were qualified as non-detected "U" in the associated samples due to rinse blank contamination:

Compound	Associated Samples
No problems were found.	

4. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

Response Factor:

CLP DATA ASSESSMENT

The response factor measures the instrument's response to specific chemical compounds. The response factor for the VOA/BNA Target Compound List (TCL) must be $\geq$ 0.05 in both the initial and continuing calibrations. A value $\leq$ 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean RRF of the initial calibration or the continuing calibration has a response factor <0.05 for any analyte, those analytes detected in environmental samples will be qualified as estimated "J". All non-detects for those compounds will be rejected "R". The following analytes in the samples shown were qualified because of response factor:

Initial Calibration

No problems were found.

5. CALIBRATION:

PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 30% and %D must be < 25%. A value outside of these QC limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J"; and non-detects are flagged "UJ". If %RSD and/or %D grossly exceed QC criteria, non-detect data may be qualified "R".

For the PESTICIDE/PCB fraction, if %RSD exceeds 20% for all analytes except for the 2 surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the samples shown were qualified for %RSD and %D:

Initial Calibration

Pest/PCBs - The following compounds were qualified as estimated "J" or rejected "R" in the associated samples because the linearity criteria or the percent relative standard deviation (%RSD) of the Initial Calibration is > 20% for either one or both GC columns:

Compound	Percent Recovery	Qualifier	Associated	Sample(s)

No problems were found.

Continuing Calibration:

Pest/PCBs - The Percent Difference (%D) for PEM compound amounts in the continuing calibration verification analyses and/or the %D amounts in the Individual Standard Mixes of the continuing

calibration verification analyses are $\geq$ 25% for either one or both GC columns. The following compounds were either qualified as estimated "J" or rejected "R" due to exceeding Continuing Calibration QC criteria:

Compound	RPD	Qualifier	Associated Sample(s)

No problems were found.

Pest/PCBs - The following compounds were qualified as estimated "J" in the associated samples because the Continuing Calibration %D is between 25-90% for these compounds on the primary GC column:

Compound	Associated Samples

No problems were found.

6. SURROGATES/SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/SMC recovery:

Pest/PCBs - The following compounds were either qualified as estimated "J" or rejected "R" due to Tetrachloro-m-xylene (TCX) and Decachlorobiphenyl (DCB) surrogate recoveries are both outside specified advisory QC limits (30-150%):

Surrogate	Recovery	Qualifier	Compounds	Sample(s)

No problems were found.

CLP DATA ASSESSMENT

8. COMPOUND IDENTIFICATION:

B) PESTICIDE FRACTION:

The retention time of the reported compounds must fall within the calculated retention time windows. The following analytes in the samples shown were qualified because of compound identification:

Pest/PCBs - The following detected compounds were qualified due to failure to show at least 3 major peaks within the established windows corresponding to each multi-component analyte.

Compound	%D	Qualifier	Sample(s)

No problems were found.

Note: These samples were analyzed using EPA Method 8082 which is a single column gas chromatographic procedure.
Note: During the initial calibration sequence, absolute retention times are determined for all single response pesticides, the surrogates, and at least three major peaks of each multi-component analyte. Windows are centered around the mean absolute retention time for the analyte established during the initial calibration. Analytes are identified when peaks are observed in the retention time window. Comparison of the sample retention times to the retention time windows established during the initial calibration revealed that no additional pesticide compounds were detected in the associated samples. In addition, no shifts for surrogate compound retention times were noted to occur that might require consideration of compounds outside respective retention time windows.

9. MATRIX SPIKE/SPIKE DUPLICATE (MS/MSD):

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for some additional qualification of the data. The following analytes, for the samples shown, were qualified because of MS/MSD:

Pest/PCBs - The following sample data were either qualified as estimated "J" or rejected "R" due to exceeding duplicate spike recovery QC criteria:

CLP DATA ASSESSMENT

No problems were found, except that the recovery of Aroclor 1260 was in excess due to overlapped peaks of the high sample amount of Aroclor 1254.

10. OTHER QC DATA OUT OF SPECIFICATION:

No problems were found.

Pest/PCBs - The following compounds were qualified as estimated "J" in the associated aqueous and/or soil/sediment field duplicate samples because the Relative Percent Difference (RPD) between the sample and field duplicate sample is > 50% for aqueous samples, or > 100% for soil/sediment samples:

Compound	Matrix	% RPD	Associated Field Duplicate Samples

No problems were found.

The following soil/sediment/solid sample data (other than TCLP data) were either qualified as estimated "J" (% moisture between 50-90%) or rejected "R" (%moisture > 90%) because the sample contains more than 90% water:

Fraction	Percent Moisture	Qualifier	# Compounds	Sample(s)
Pest/PCBs	58.4	J	Aroclor 1254	CCSD1

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT:

Due to professional judgement, the following compounds were not transferred from the indicated dilution sample analyses to the undiluted sample analyses because the reported values of these compounds are either diluted out in the associated dilution sample analyses or are qualified as non-detected "U" due to blank contamination QC criteria:

Fraction	Compound	Dilution Sample(s)	Dilution Factor

No problems were found.

Due to professional judgement, the following positive data were rejected "R" due to possible carryover from

a previous sample analysis that contained the compound(s) at high concentration(s):

Fraction	Sample	Compound	Sample Compound Concentration	Previous Sample Compound Concentration

No problems were found.

12. CONTRACT PROBLEMS/NON-COMPLIANCE:

The laboratory report did not quantify Aroclor 1260 because there were large amounts of Aroclor 1254 whose peaks overlapped with many of the Aroclor 1260 peaks. The samples were analyzed at high dilutions in order to bring the Aroclor 1254 within the calibration range. This resulted in diluting the Aroclor 1260 below the practical level of identification and quantification.

The initial laboratory report did not include the corrections of the data for reporting on the dry weight basis. The laboratory was required to measure the moisture content of the samples and they submitted corrected Form Is.

PCB DATA TABLE

PROJECT: Cornell-Dubilier SDG# 4338

SOIL: Low Concentration

Sample #/Concentration (ug/Kg)

Sample Date	11/21/98	11/21/98	11/21/98	11/21/98	11/21/98	11/21/98				
Sample ID	CCSD1-A	DDSS1-A	HHSD1-A	UUUSD1-A	UUUSD3-A	PPPND2-A				
Lab ID	EE-98-19591	EE-98-19592	EE-98-19593	EE-98-19594	EE-98-19595	EE-98-19596				
% Moisture	58%	23%	40%	28%	22%	48%				
Dilution Factor	2000	2000	2000	10	10	1000				
Aroclor-1016	96000 U	52000 U	66000 U	280 U	260 U	38000 U				
Aroclor-1221	192000 U	100000 U	130000 U	560 U	510 U	77000 U				
Aroclor-1232	96000 U	52000 U	66000 U	280 U	260 U	38000 U				
Aroclor-1242	96000 U	52000 U	66000 U	280 U	260 U	38000 U				
Aroclor-1248	96000 U	52000 U	66000 U	280 U	260 U	38000 U				
Aroclor-1254	580000 J	250000	510000	2100	1200	250000				
Aroclor-1260	96000 U	52000 U	66000 U	280 U	260 U	38000 U				
Total PCB (mg/Kg)	580 J	250	510	2.10	1.20	250				

U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.

PCB DATA TABLE

PROJECT: Cornell-Dubilier SDG# 4338

WATER: Low Concentration

Sample #/Concentration (ug/L)

Sample Date	11/21/98									
Sample ID	RB-1									
Lab ID	EE-98-19597									
% Moisture										
Dilution Factor	1.0									
Aroclor-1016	0.5 U									
Aroclor-1221	1.0 U									
Aroclor-1232	0.5 U									
Aroclor-1242	0.5 U									
Aroclor-1248	0.5 U									
Aroclor-1254	0.5 U									
Aroclor-1260	0.5 U									

U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.

CHAIN OF CUSTODY RECORD

RFP No.: 4338

PO No.: 98700

WESTON MANAGERS DESIGNERS/CONSULTANTS

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019
Phone: 908-225-5116 Fax: 908-225-7037

Matrix Box No.:
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil
7. Waste
8. Other (Specify)

DEC

Preservative Box No.:
1. HCl
2. HNO3
3. Na2SO4
4. H2SO4
5. Other (Specify)
6. Ice Only
N. Not Preserved
• See Comments

Send verbal and written results to: Roy F. Weston, Inc., USEPA Region II START
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, START Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY/Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS REN	COR	REAC	OTHER
CCSD1-a	11/21/98 1000	5	L	G	6				X						
DDSS1-a	1005	↓	↓	↓	↓				X						
HHSD1-a	1025								X						
UUUSD1-a	1045								X						MS/MSD
UUUSD3-a	1045								X						
PPPND2-a	1120								X						
RB-1	1100	4							X						

Comments:

Person Assuming Responsibility for Sample:	Time	Date (MM/DD/YY)
M. Markley	1245	11/21/98

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
ALL	M. Markley	1245	11/21/98	Fed Exp.	Shipping
ALL	Fed Ex	9:55	11/23/98	Kyle Mead	Received samples

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION
In Association with Resource Applications, Inc., R.E. Services Associates, PRC Environmental Management, C.C. Johnson & Malhotra, P.C., and GRB Environmental Services, Inc.

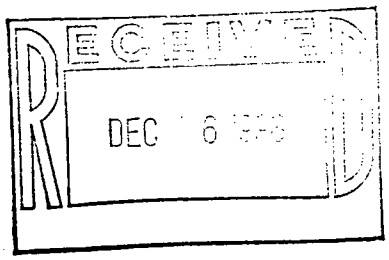
JOB NUMBER : 9803.017

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

SAMPLE NUMBER	CLIENT SAMPLE ID		DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
8082 PCB		-S			
19591.01	CCSD1-A		11/21/98	11/24/98	12/03/98
19592.01	DDSS1-A		11/21/98	11/24/98	12/03/98
19593.01	HHSD1-A		11/21/98	11/24/98	12/03/98
19594.01	UUUSD1-A	duplicates	11/21/98	11/24/98	12/02/98
19595.01	UUUSD3-A		11/21/98	11/24/98	12/02/98
19596.01	PPPND2-A		11/21/98	11/24/98	12/03/98
8082 PCB		-W			
19597.01	RB-1		11/21/98	11/25/98	11/25/98

Ecology & Environment, Inc.
Analytical Services Center

Job number: 9803.017
Batch number: 981129305P/981125398P
Roy F. Weston



Narrative

PCBs

The column used for this analysis was a RTX-5, 30 m.

No PCB's were found in the water sample. Nothing unusual to report about the water sample analysis.

The reporting limits were raised according to the percent solids present in the samples.

Aroclor 1254 was found in the soil samples.

The soil samples were analyzed at secondary dilutions and quantitation limits raised accordingly. In samples CCSD1-A, DDSS1-A, HHSD1-A and PPPND2-A the surrogate recoveries were diluted out.

The UUUSD1-A MS/MSD was analyzed at a secondary dilution. The sample contained Aroclor 1254 which co-eluted with the Aroclor 1260 spike recoveries causing them to be elevated outside the QC Limits.

The laboratory control samples (LCS) spike recoveries, remaining surrogates and method blank met QC criteria.

Initial and continuing calibration standards met method criteria. Initial calibration data for both waters and soils is in the water section of this report.

Gary Rudz, Senior Chemist

TEST CODE :WPCB0A1 JOB NUMBER :9803.017
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
TEST NAME : 8082 PCB UNITS : UG/L
SAMPLE ID LAB : EE-98-19597 MATRIX: WATER
SAMPLE ID CLIENT: RB-1

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		0.50
PCB-1254	ND		0.50
PCB-1221	ND		1.0
PCB-1232	ND		0.50
PCB-1248	ND		0.50
PCB-1260	ND		0.50
PCB-1016	ND		0.50

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9803.017
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 41.6%
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-19591 MATRIX : SOLID
SAMPLE ID CLIENT: CCSD1-A

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		96000
PCB-1254	580000	J	96000
PCB-1221	ND		192000
PCB-1232	ND		96000
PCB-1248	ND		96000
PCB-1260	ND		96000
PCB-1016	ND		96000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9803.017
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 76.7%
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-19592 MATRIX : SOLID
SAMPLE ID CLIENT: DDSS1-A

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		52000
PCB-1254	250000		52000
PCB-1221	ND		100000
PCB-1232	ND		52000
PCB-1248	ND		52000
PCB-1260	ND		52000
PCB-1016	ND		52000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9803.017
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 60.3%
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-19593 MATRIX : SOLID
SAMPLE ID CLIENT: HHSD1-A

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		66000
PCB-1254	510000		66000
PCB-1221	ND		130000
PCB-1232	ND		66000
PCB-1248	ND		66000
PCB-1260	ND		66000
PCB-1016	ND		66000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9803.017
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 71.6%
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-19594 MATRIX : SOLID
SAMPLE ID CLIENT: UUUSD1-A

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		280
PCB-1254	2100		280
PCB-1221	ND		560
PCB-1232	ND		280
PCB-1248	ND		280
PCB-1260	ND		280
PCB-1016	ND		280

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

TEST CODE :SPCB0A1 JOB NUMBER :9803.017
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 78.1%
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-19595 MATRIX : SOLID
SAMPLE ID CLIENT: UUUSD3-A

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		260
PCB-1254	1200		260
PCB-1221	ND		510
PCB-1232	ND		260
PCB-1248	ND		260
PCB-1260	ND		260
PCB-1016	ND		260

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

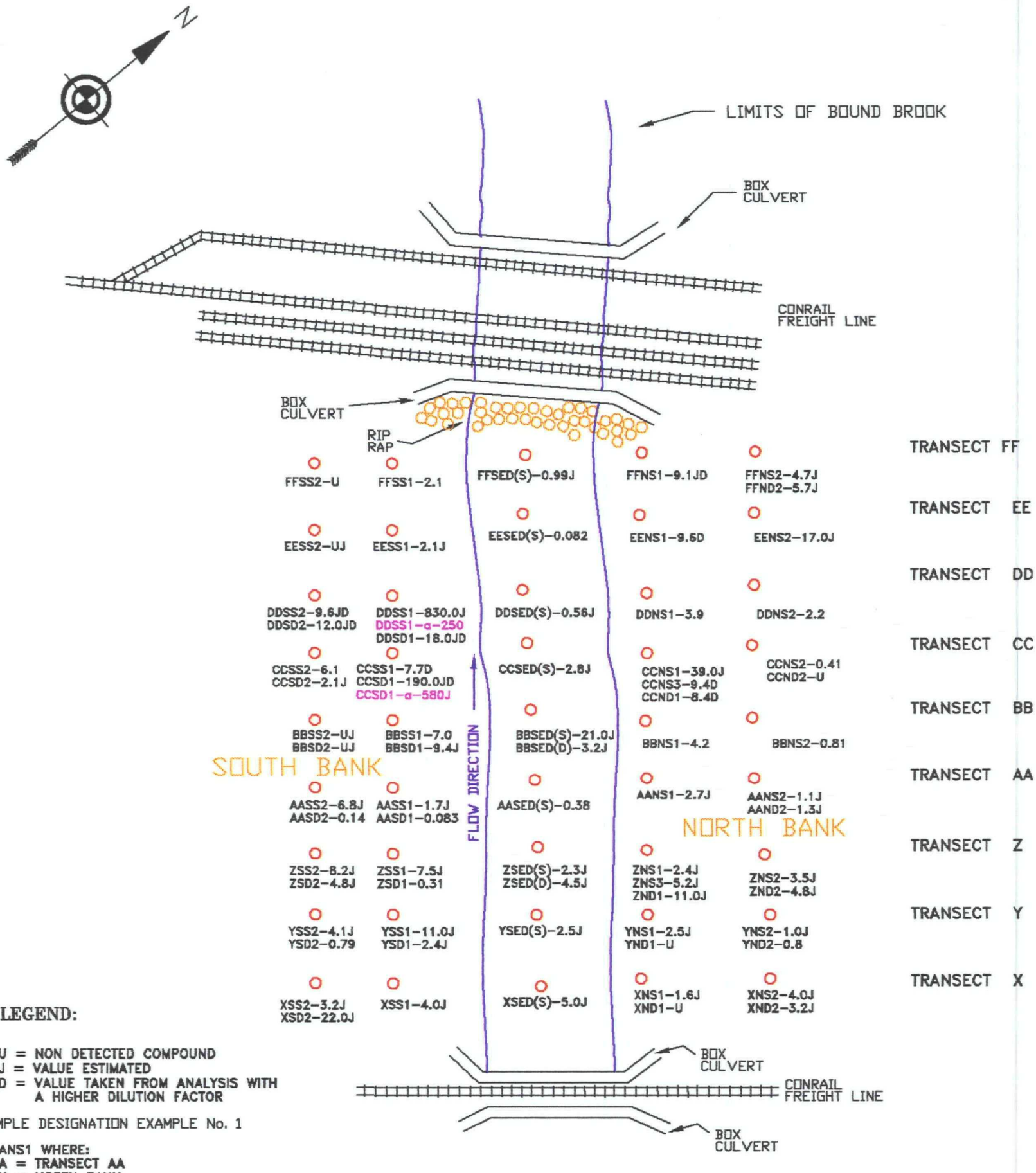
TEST CODE :SPCB0A1 JOB NUMBER :9803.017
ELAP ID : 10486

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : ROY F. WESTON - EDISON
RESULTS IN DRY WEIGHT %SOLIDS : 52.1%
TEST NAME : 8082 PCB UNITS : UG/KG
SAMPLE ID LAB : EE-98-19596 MATRIX : SOLID
SAMPLE ID CLIENT: PPPND2-A

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		38000
PCB-1254	250000		38000
PCB-1221	ND		77000
PCB-1232	ND		38000
PCB-1248	ND		38000
PCB-1260	ND		38000
PCB-1016	ND		38000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE



LEGEND:

U = NON DETECTED COMPOUND
J = VALUE ESTIMATED
D = VALUE TAKEN FROM ANALYSIS WITH A HIGHER DILUTION FACTOR

SAMPLE DESIGNATION EXAMPLE No. 1

AANS1 WHERE:
AA = TRANSECT AA
N = NORTH BANK
S = SURFACE (0-6") SOIL SAMPLE
1 = SAMPLE No.1, COLLECTED 5.0' FROM WHERE THE STREAM MEETS THE BANK

SAMPLE DESIGNATION EXAMPLE No.2

BBSD2 WHERE:
BB = TRANSECT BB
S = SOUTH BANK
D = DEPTH (18"-24" OR 0-6" INTERVAL ABOVE FIRST GROUNDWATER OR REFUSAL) SOIL SAMPLE
2 = SAMPLE No.2, COLLECTED 10.0' FROM WHERE THE STREAM MEETS THE BANK

SAMPLE DESIGNATION EXAMPLE No. 3

CCSED(S) WHERE:
CC = TRANSECT CC
SED = SEDIMENT SAMPLE
(S) = SURFACE (0-6") SAMPLE COLLECTED FROM THE STREAM BED; (D) = 18"-24" OR 0-6" ABOVE REFUSAL.

* All results expressed in mg/kg (ppm).

TRANSECTS ARE SPACED ON 50 FEET CENTERS

- DRAWING NOT TO SCALE -

FIGURE 5 - CORNELL-DUBILIER ELECTRONICS SOIL AND SEDIMENT SAMPLING LOCATIONS INDICATING TOTAL PCB CONCENTRATIONS. BOUND BROOK - REACH 3/TRANSECTS X - FF

US EPA REMOVAL ACTION BRANCH
SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
CONTRACT# 68-W5-0019

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION

IN ASSOCIATION WITH PRC ENVIRONMENTAL MANAGEMENT, INC., C.C. JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC., R.E. SARRIERA ASSOCIATES, AND GRB ENVIRONMENTAL SERVICES, INC.

DRAWN BY : J. HAMPTON JR.
EPA TASK MONITOR: D. HARKAY
START PROJECT MANAGER: M. MAHNKOPF

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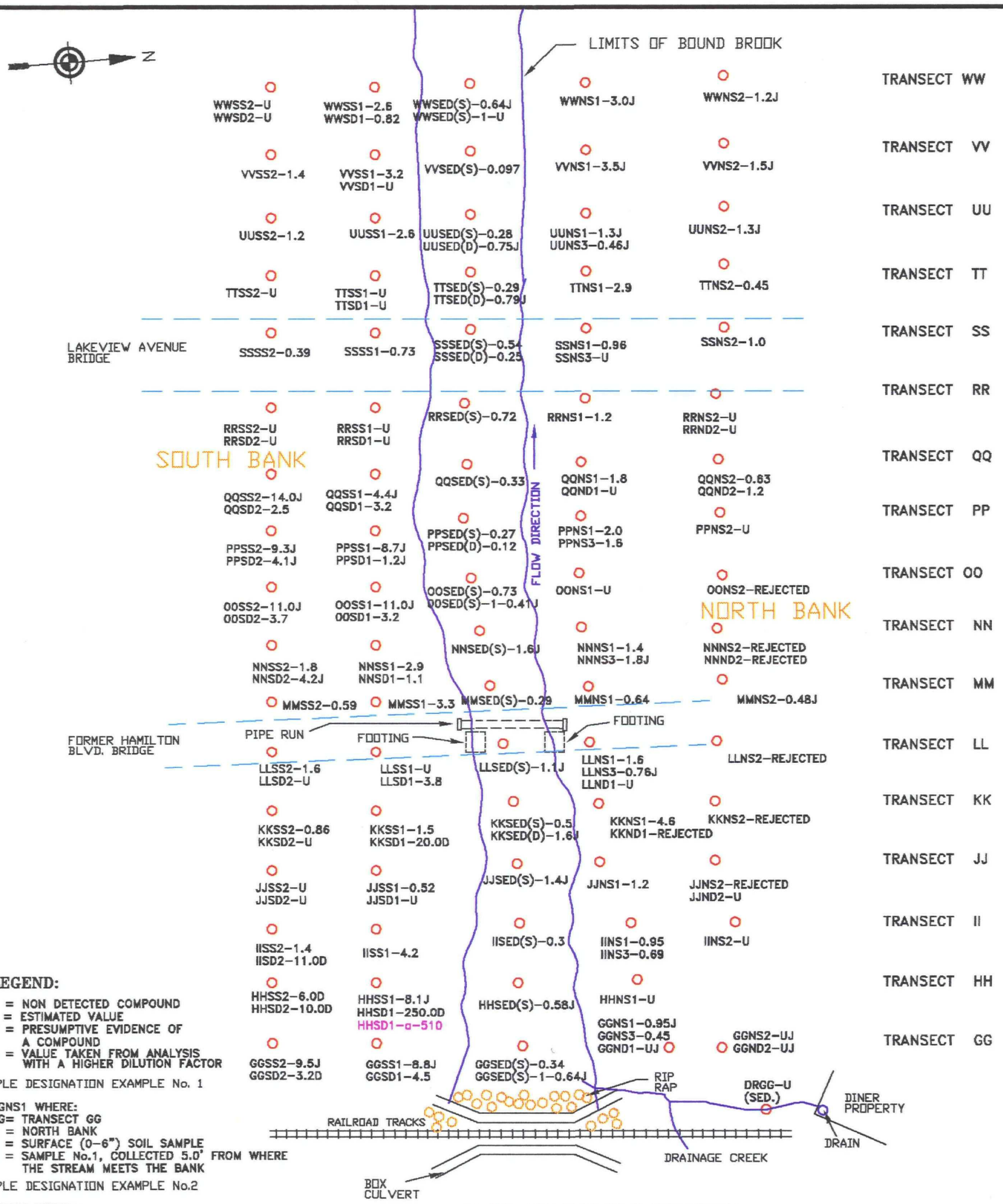

LEGEND:

U = NON DETECTED COMPOUND
J = ESTIMATED VALUE
N = PRESUMPTIVE EVIDENCE OF A COMPOUND
D = VALUE TAKEN FROM ANALYSIS WITH A HIGHER DILUTION FACTOR

SAMPLE DESIGNATION EXAMPLE No. 1

GGNS1 WHERE:
GG= TRANSECT GG
N = NORTH BANK
S = SURFACE (0-6") SOIL SAMPLE
1 = SAMPLE No.1, COLLECTED 5.0' FROM WHERE THE STREAM MEETS THE BANK

SAMPLE DESIGNATION EXAMPLE No.2

HHSD2 WHERE:
HH = TRANSECT HH
S = SOUTH BANK
D = DEPTH (18"-24" OR 0-6" INTERVAL ABOVE FIRST GROUNDWATER OR REFUSAL) SOIL SAMPLE
2 = SAMPLE No.2, COLLECTED 10.0' FROM WHERE THE STREAM MEETS THE BANK

SAMPLE DESIGNATION EXAMPLE No. 3

KKSED(S) WHERE:
KK = TRANSECT KK
SED = SEDIMENT SAMPLE
(S) = SURFACE (0-6") SAMPLE COLLECTED FROM THE STREAM BED; (D) = 18"-24" OR 0-6" ABOVE REFUSAL.

* All results expressed in mg/kg (ppm).

TRANSECTS ARE SPACED ON 50 FEET CENTERS

- DRAWING NOT TO SCALE -

FIGURE 6 - CORNELL-DUBILIER ELECTRONICS SOIL AND SEDIMENT SAMPLING LOCATIONS INDICATING TOTAL PCB CONCENTRATIONS. BOUND BROOK - REACH 4/TRANSECTS GG - WW

US EPA REMOVAL ACTION BRANCH

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
CONTRACT# 68-W5-0019

Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION

IN ASSOCIATION WITH PRC ENVIRONMENTAL MANAGEMENT, INC., C.C. JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC., R.E. SARRIERA ASSOCIATES, AND GRB ENVIRONMENTAL SERVICES, INC.

DRAWN BY : J. HAMPTON JR.

EPA TASK MONITOR: D. HARKAY

START PROJECT MANAGER: M. MAHNKOPF

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LEGEND:

U = NON DETECTED COMPOUND
J = ESTIMATED VALUE
N = PRESUMPTIVE EVIDENCE OF A COMPOUND
D = VALUE TAKEN FROM ANALYSIS WITH A HIGHER DILUTION FACTOR

TRANSECTS ARE SPACED ON 200 FEET CENTERS

SAMPLE DESIGNATION EXAMPLE No. 1

JJJNS1 WHERE:
JJJ = TRANSECT JJJ
N = NORTH BANK
S = SURFACE (0-6") SOIL SAMPLE
1 = SAMPLE No.1, COLLECTED 5.0' FROM WHERE THE STREAM MEETS THE BANK

SAMPLE DESIGNATION EXAMPLE No.2

KKKSD2 WHERE:
KKK = TRANSECT KKK
S = SOUTH BANK
D = DEPTH (18"-24" OR 0-6" INTERVAL ABOVE FIRST GROUNDWATER OR REFUSAL) SOIL SAMPLE
2 = SAMPLE No.2, COLLECTED 10.0' FROM WHERE THE STREAM MEETS THE BANK

SAMPLE DESIGNATION EXAMPLE No. 3

LLLSED(S) WHERE:
LLL = TRANSECT LLL
SED = SEDIMENT SAMPLE
(S) = SURFACE (0-6") SAMPLE COLLECTED FROM THE STREAM BED; (D) = 18"-24" OR 0-6" ABOVE REFUSAL.

* All results expressed in mg/kg (ppm).

- DRAWING NOT TO SCALE -

FIGURE 8 - CORNELL-DUBILIER ELECTRONICS
SOIL AND SEDIMENT SAMPLING LOCATIONS
INDICATING TOTAL PCB CONCENTRATIONS.
BOUND BROOK - REACH 6/TRANSECTS JJJ - WWW

US EPA REMOVAL ACTION BRANCH
SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
CONTRACT# 68-W5-0019

DRAWN BY : J. HAMPTON JR.
EPA TASK MONITOR: D. HARKAY
START PROJECT MANAGER: M. MAHNKOPF

WESTON MANAGERS DESIGNERS/CONSULTANTS
Roy F. Weston, Inc.
FEDERAL PROGRAMS DIVISION

IN ASSOCIATION WITH PRC ENVIRONMENTAL MANAGEMENT, INC.,
C.C. JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC.,
R.E. SARRIERA ASSOCIATES, AND GRB ENVIRONMENTAL SERVICES, INC.

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